

## 1253

# characterisation of disease and exacerbations in patients hospitalized with asthma attacks without previous attendance of a specialized department

Calado, G<sup>1</sup>; Loureiro, G<sup>1</sup>; Tavares, B<sup>1</sup>; Pereira, C<sup>1</sup>; Ribeiro, C<sup>1</sup>; Machado, D<sup>2</sup>; Chieira, C<sup>1</sup>

<sup>1</sup>Coimbra University Hospital, Immunoallergy Department, Coimbra, Portugal, <sup>2</sup>Immunoallergy Department, Immunoallergy Department, Coimbra, Portugal

**Background:** Education programs had been proposed to be implemented in primary and secondary health care professionals, to reduce asthma exacerbations and hospitalizations, as well as in general population. In our Immunoallergy ward, the majority of asthma hospitalizations occur in patients without previous attendance in a specialized department.

**Objective:** To analyze the characteristics of asthma disease and exacerbation in patients hospitalized in our allergy ward, not previously attended in a specialized department.

**Method:** During 2005 and 2006, 150 patients were hospitalized by asthma exacerbation in our department ward. We included in this study all the patients that were not previously attended in a specialized department. We analysed the demographical data, asthma characteristics before hospitalization (age of beginning, time of evolution and previous treatment) and current asthma exacerbation characteristics (severity and suspected trigger of exacerbation; duration of hospitalization). The patients were divided in two groups: the group A included patients previously attended by a general practitioner (GP) and group B included those patients that had no previous attendance.

**Results:** Forty nine patients were included in this study (59.1% female; 40.8% male; average age  $40 \pm 16$  yrs). Their asthma symptoms had a time of evolution of  $15.8 \pm 15.9$  yrs. 16.3% of the patients were hospitalized because of inaugural asthma symptoms. Group A included 27 patients and group B included 22 patients. The table presents the analyzed parameters in each group. Concerning the previous treatment, exclusively short action  $\beta$ -agonist bronchodilators were prescribed in 25.9% of the patients of group A and were self administered in 36.4% of group B. 63.6% of group B had no previous treatment. The triggers were similar in both groups.

**Conclusions:** As all group A patients had previous treatment, we hypothesize that the longer disease evolution and/or higher severity of asthma could explain the more prevalent severe exacerbations in this group, when compared with group B. Despite some patients have had inaugural asthma symptoms,

the majority of group B patients had been symptoms for several years. This could reflect insufficiencies in educational programs implemented in general population and in primary health care professionals.

Group	n	Current age (yrs)	Time of evolution (yrs)	1st asthma exacerbation	Previous treatment	Exacerbation severity	Hospitalization time (days)	Trigger
A	27	44 ± 18	22.4 ± 18	●	27	Moderate (70.4%)/severe (29.6%)	8 ± 4.0	Infection 16/combustion smoke 2/others 9
B	22	34 ± 16	9.6 ± 11	8/22 (36.4%)	8	Moderate (81.8%)/severe (18.2%)	7.8 ± 2.6	Infection 16/combustion smoke 1/others 5

## 1254

# Pulmonary function in overweight-obese children with and without asthma

Reyes Balaguer, J<sup>1</sup>; Rivas, C<sup>1</sup>; Moreno, F<sup>2</sup>; Lopez-Cruz, C<sup>2</sup>; Ferrer-Franco, A<sup>1</sup>; Caro, J<sup>2</sup>; Bruno, L<sup>1</sup>; Marin, L<sup>1</sup>; Pamies, R<sup>1</sup>; Caballero, L<sup>1</sup>; Mazon, A<sup>1</sup>; Nieto, A<sup>1</sup>; Dalmau, J<sup>3</sup>

<sup>1</sup>Children's hospital La Fe, pediatric allergy unit, Valencia, Spain, <sup>2</sup>Clinica Doctor Lobaton, Laboratorio, Cadiz, Spain, <sup>3</sup>Children's hospital La Fe, pediatric nutrition unit, Valencia, Spain

**Background:** Overweight/obesity is an increasing disorder in Western countries, as well as asthma. There may be a link between both disorders, since adipose tissue is able to secrete proinflammatory cytokines that could contribute to the airway inflammation in asthma. We aimed to compare the pulmonary function of overweight-obese children with and without clinical asthma.

**Methods:** We studied 29 children (5–16 years-old) with overweight-obesity (Body Mass Index BMI  $\geq 25$ ): 15 (A) with and 14 (NA) without clinical asthma. Respiratory function, with spirometry and oscillometry was measured, in a symptom-free period for asthmatic children. A non-parametric Mann-Whitney U test with the SPSS software program was used to compare expiratory flows and oscillometry impedance Z5, resistances R5 and R20, reactance X5 and frequency of resonance.

**Results:** There was one patient in each group with a FEV1 < 80% of predicted, and 5 in A group and 2 in NA with FEV25–75 < 80%. Regarding oscillometry, values > 140% of predicted were found in 3 patients for Z5, in one patient for R5, all of group A. None of the patients had increased R20. Reactance X5 > 140% of predicted was found in 5 and 6 patients of groups A and NA respectively. No statistically significant differences were found between groups for any of the function parameters ( $P > 0.35$  in all cases).

**Conclusion:** The respiratory function of non-asthmatic children with overweight-obesity is similar to that of asthmatic children with similar BMI in intervals between asthma episodes. Raised peripheral reactance is common in overweight-obese non-asthmatic children, so they may be at increased risk of developing asthma.

## 1255

# Influence of cell phone radiation on exhaled NO measures

Araújo, L<sup>1</sup>; Jacinto, T<sup>2</sup>; Fonseca, J<sup>3</sup>; Castel-Branco, M<sup>4</sup>

<sup>1</sup>Hospital of São João/Faculty of Medicine, University of Porto, Allergy Department/Immunology Department, Porto, Portugal, <sup>2</sup>Hospital of São João/Faculty of Medicine, University of Porto, Allergy Department/CINTESIS, Porto, Portugal, <sup>3</sup>Hospital of São João/Faculty of Medicine, University of Porto, Allergy Department/CINTESIS/Biostatistics, Porto, Portugal, <sup>4</sup>Hospital of São João, Allergy Department, Porto, Portugal

**Background:** Exhaled NO (eNO) is a non-invasive measure of airway inflammation used in asthma and other inflammatory diseases of the airways. Cell phones are now very common and a major source of electromagnetic interference with other electronic devices performance, which is a rising concern. We aim to test the influence of cell phone electromagnetic interference in eNO measurements using NIOX Mino.

**Methods:** In an experimental study, we made three consecutive measurements of eNO (Niox Mino, Aerocrine AB, Sweden) with different expositions to electromagnetic radiation. The first measurement was performed with no cell phones in a 3 meters radius from the device. In the second measurement the Tri-Band GSM/GPRS cell phone (I-Mate SPL, Dubai, UAE, 2001) was in stand-by mode at a 50 cm distance from the Niox Mino. The third measurement was performed with the cell phone connected in conversation at a 50 cm distance from device. The sample size was calculated using PIFACE software v1.65 (Lenth, R. V.; 2007). For a paired-*t*-test with an effect of 1 ppb and a power of 0.9 at a significance level of 5% the sample size is 13. T-paired test were used to compare different measurements. Intraclass Correlation Coefficient was used to calculate the agreement between measurements.

**Results:** Twenty subjects, 14 females, mean ( $\pm$  SD) age of 31 ( $\pm$  13), 50% asthmatics performed measurements. Mean ( $\pm$  SD) eNO values in ppb were: eNO 26.2 ( $\pm$  16); eNOsb 27.2 ( $\pm$  18); eNOcv 28.8 ( $\pm$  18). The mean difference between eNO and eNOcv was 2.6; 95% CI 1.15–3.95 ( $P = 0.001$ ). No significant differences were observed between eNO and eNOsb values. The Intraclass Correlation Coefficient was 0.994 [CI 0.987–0.997] between the 3 mea-